



DEPARTMENT OF BUILDING & SAFETY

WATER SUPPLY SYSTEM SIZING USING APPENDIX "A"

Effective July 5, 2011

333 North Rancho Drive, Las Vegas NV 89106-3703

Phone: (702) 229-6251 Fax: (702) 382-1240

The following information is requested so the CLV Building Department will be able to verify the sizing of the water piping correctly when the 2012 UPC, Appendix "A" is used. **Please provide supporting documents for the information provided.** While the information contained in this form is believed to be accurate, this information should not be used or relied upon for any specific application without competent professional examination and verification of its accuracy, suitability and applicability by a competent licensed mechanical engineer, architect, or other licensed professional. Anyone making use of this information assumes all liability arising from such use.

PRELIMINARY INFORMATION:

- 1) Minimum average daily service pressure..... PSI
Call the Las Vegas Valley Water District at 258-3165 or the NLV Water District at 633-1206
- 2) Water meter and RPPA size..... / Inches
- 3) Water meter and RPPA pressure loss..... PSI Total PSI loss
(At continuous flow, see demand load)

DEMAND LOAD:

- 4) Total Fixture Units (From Table A2.1). Provide list of fixtures & units for each)..... FU
- 5) Flow in gallons per minute..... GPM
(From Table A2.1 using number of total fixture units from line 4 above)
- 6) Continuous supply demands (sprinklers, A/C, etc.)..... GPM
- 7) Line 5 added to line 6 equals the total flow..... TOTAL GPM through Meter

PERMISSIBLE FRICTION LOSS:

- 8) Minimum residual pressure desired (15 lbs. min.) PSI
- 9) Elevation of highest fixture above street water main..... Feet
- 10) Static elevation pressure loss equals maximum elevation multiplied by 0.43 $\frac{\text{maximum elevation}}{\text{(maximum elevation)}} \times 0.43 = \frac{\text{static pressure loss}}{\text{(static pressure loss)}}$ PSI
- 11) The average minimum daily service pressure minus (the static pressure loss + residual pressure desired + meter pressure loss + RPPA pressure loss) = pressure available for friction loss in supply piping.
 $\frac{\text{minimum daily service pressure}}{\text{(minimum daily service pressure)}} - (\frac{\text{static loss, residual pressure, meter loss, RPPA loss}}{\text{(static loss, residual pressure, meter loss, RPPA loss)}} = \frac{\text{pressure loss available for friction loss in the supply pipes}}{\text{(pressure loss available for friction loss in the supply pipes)}}$ PSI
- 12) $100 \times \frac{\text{pressure available for friction loss}}{\text{total developed length of piping total lineal feet + \% fitting loss}} = \text{allowable friction loss per 100 feet of piping}$
 $100 \times \frac{\text{PSI}}{\text{PSI per 100 ft. of piping}} = \text{PSI}$
- 13) Using the above information the building supply, branches and risers can be sized.
Check below which chart issued.

Chart 4.1 _____
Chart 4.1(1) _____
Chart 4.1(2) _____
Chart 4.1(3) _____

Engineer / Contractor's Seal, Signature & Date